

**REMARKS**

Pursuant to Applicant's election of Claims 1-47 for prosecution, responsive to Examiner's restriction requirement of November 16, 2005, Claims 48-54 are withdrawn from consideration. Applicant reserves the right to file a continuation application or take such appropriate action as deemed necessary to protect the non-elected inventions. Applicant does not hereby abandon or waive any rights in the non-elected inventions.

The specification has been amended with respect to the trademark "Plexiglas." The generic terminology of Plexiglas, acrylic glass, has been added for clarity. Claims 13 and 36, which also included this trademark, have been amended by substituting the trademark with an equivalent generic term. With these amendments, no new matter is introduced; acceptance is respectfully requested.

Claims 1, 3, 19, 22, 26 and 44 have been amended for clarity, to correct clerical errors, and to further define the claimed invention. Support for these amendments is found at least on page 6, lines 4-27 and Fig. 1B of the specification as originally filed. Claims 19 and 26 have been amended to provide antecedent basis. With these amendments, no new matter is introduced; acceptance is respectfully requested.

**Rejection of Claims 19 and 44 under 35 U.S.C. § 112**

Claims 19 and 44 have been rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the invention.

The term "critical angle" is well understood in the art of optics to mean the angle at which light undergoes total reflection within a substance. Under this definition, this term is used multiple times in the specification (See page 3, lines 20-23 and page 9, lines 1-4 and 23-25). In particular, the specification teaches forming ridges or grooves on an edge 20 of the planar wave guide 16 to improve the transfer of light into the waveguide (Specification page 9, lines 21-30). One skilled in the relevant art need not ascertain a requisite degree because, as stated in the specification, light at the critical angle is transmitted into the wave guide 16. Groves 60 in an edge of the wave guide 16 (Figs. 7 and 7A) cause some of the received light to be about the critical angle. Thus, Claim 19 provides a definite scope of the claimed invention, as the claimed

“grooves” are any such grooves that cause received light to be about the critical angle, which transmits the light into the wave guide rather than through an edge of the wave guide.

Claim 44 has been amended to delete the term “reduced loss.” The Examiner states that the term “the sleeve” in Claim 44 lacks proper antecedent basis. Applicant disagrees, as it is clear that “the sleeve” refers to the term “transparent dielectric sleeve,” which precedes the objected term on the same line. In an abundance of clarity, Claim 44 is now amended to use the term “transparent dielectric sleeve” throughout.

Rejection of Claims 1-3, 17, 18, 20, 22, 23, 26, 40, 41 and 43 under 35 U.S.C. § 102(b)

Claims 1-3, 17, 18, 20, 22, 23, 26, 40, 41 and 43 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Zou et al. (US Patent 6,186,649). Applicant respectfully disagrees with this rejection for the reasons set forth below.

Base Claims 1, 22 and 44 are directed to methods, apparatus and systems for emitting light through a planar surface. Embodiments of this invention include a light source surrounded by a transparent insulating sleeve, and the outer surface of the transparent insulating sleeve is in contact with a planar waveguide. Light emitted by the light source is transmitted through (i.e. from the inner surface through the outer surface of) the transparent insulating sleeve and directed through the planar waveguide, thus providing an illuminated planar surface (see Specification, page 2, lines 6-14). Claims 3 and 26 are directed further to a reflective surface that surrounds a portion of the transparent insulating sleeve and reflects some of the emitted light into the planar waveguide. By providing a transparent insulating sleeve surrounding the light source, the planar waveguide and other items are less susceptible to the heat generated by the light source (see Specification, page 6, lines 14-21). As a result, the light source can be positioned closer to the planar waveguide, thereby allowing more light to be directed through the planar surface. The present invention provides improved illumination of a planar surface.

Zou et al. describes a system for providing linear illumination. In Fig. 8, florescent light 252/254 is partially enclosed by an enclosure 256, with a small opening 262 that allows light to escape (see Zou, column 8, lines 33-50). The enclosure 256 can be reflective, non-reflective or transparent (column 8, lines 41-43). If it is transparent, an additional reflective layer 258 is needed inside the enclosure, in order to ensure that light is transmitted through the opening 262

(column 8, lines 43-46). In addition, Fig. 9 describes a similar device with an “optical waveguide” 316 located near the opening 314.

Zou does not teach or suggest the present invention as claimed in Base Claims 1 and 22. A novel aspect of the present invention is a transparent insulating sleeve that surrounds the light source and improves light emission through the planar waveguide. Amended Claims 1, 22 and 44 distinctly point out the function of this sleeve, being a transparent insulating sleeve that allows the light to pass through sleeve surfaces, i.e. from an inner surface to an outer surface of the sleeve. Zou does not disclose or suggest such a transparent insulating sleeve. In Zou, Fig. 8, the enclosure 256 is not the same as a transparent insulating sleeve because the enclosure 256 does not allow light from the light source to pass through sleeve surfaces. The enclosure 256 instead transmits light through the opening 264, or (if it is transparent) holds an additional reflective layer 258 that reflects light through the opening 264 (see Zou, column 8, lines 41-46). This reflective layer 258 prevents light from passing through surfaces of the enclosure 256. Further, the enclosure 304 of Fig. 9 is not shown or suggested to be in contact with the optical waveguide 316 (see Zou, column 9, lines 38-54). Thus, the enclosure 256 of Zou is entirely unrelated to and teaches away from the use of the transparency of a sleeve surrounding a light source to transmit light through the sleeve surfaces as claimed in the present application.

Zou also fails to teach or suggest a reflector as claimed in claims 3 and 26. The Examiner cites the reflector 258 (Zou, Fig. 8) located inside the enclosure 256. In the present invention, however, it is clear that the reflector must surround the outside of the transparent sleeve (see Specification, page 7, lines 16-26, and Fig. 1B). The reflector cannot surround the inside of the sleeve because it would prevent light from passing through the sleeve surfaces, as claimed in base Claims 1 and 22. Further, claims 3 and 26 have been amended to specify that the reflector surrounds the outside of the sleeve. Zou does not teach or suggest this configuration because the system of Zou requires a “highly reflective enclosure,” which requires that the reflective layer be immediate to the light source, with no layer between (Zou, column 8, lines 52-59).

Claims 2, 17, 18, 20, 23, 40, 41 and 43 depend from one of base Claims 1 and 22 and thus the foregoing applies. As a result, the rejections of Claims 1-3, 17, 18, 20, 22, 23, 26, 40, 41 and 43 under 35 U.S.C. § 102(b) cannot stand and should be withdrawn.

Rejection of Claims 4-16, 19, 21, 24, 25, 27-39, 42 and 44-47 under 35 U.S.C. § 103(a)

Claims 4-16, 19, 21, 24, 25, 27-39, 42 and 44-47 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Zou alone or in combination with Ato (US Patent 6,935,766), Murase (US Patent 5,408,387), or Yu (US Patent 6,979,112). These claims depend from one of base Claims 1, 22 and 44 and thus the foregoing applies. Applicant respectfully disagrees with these rejections for the reasons set forth below.

As cited above, Zou does not teach or suggest a transparent insulating sleeve, passing light from an inner surface of the sleeve through an outer surface of the sleeve to a waveguide, in contact with the sleeve as claimed in the present application. Ato, Murase and Yu describe other light handling systems, none of which teach or suggest the above argued elements as claimed in the present application. Thus, one skilled in the relevant art would be unable to combine the cited references to arrive at the present invention. As a result, the rejection of claims 4-16, 19, 21, 24, 25, 27-39, 42 and 44-47 under 35 U.S.C. § 103(a) cannot stand and should be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is believed that all pending claims (Claims 1-47) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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